Summary: By the geometric Satake correspondence, the number of components of certain fibres of the affine Grassmannian convolution morphism equals the tensor product multiplicity for representations of the Langlands dual group. On the other hand, in the case of GL_n, combinatorial objects called hives also count tensor product multiplicities. The purpose of this paper is to give a simple bijection between hives and the components of these fibres. In particular, we give a description of the individual components. We also describe a conjectural generalization involving the octahedron recurrence.

MSC:
- 20G05 Representation theory for linear algebraic groups
- 14M15 Grassmannians, Schubert varieties, flag manifolds
- 17B10 Representations of Lie algebras and Lie superalgebras, algebraic theory (weights)
- 14L35 Classical groups (algebro-geometric aspects)
- 05E10 Combinatorial aspects of representation theory
- 05E15 Combinatorial aspects of groups and algebras (MSC2010)

Keywords: tensor product multiplicities; geometric Satake correspondence; affine Grassmannians; hives

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